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C09–AEI–**605**

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BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2015

DAEI—SIXTH SEMESTER EXAMINATION

PRINCIPLES OF COMMUNICATIONS AND LINEAR IC APPLICATIONS

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Draw the circuit diagram for AM generation using base circuit.

2. Write any three comparisons between SSB and DSB.

3. What is the need of heterodyning in radio receiver?

4. Give any three comparisons between PWM and PCM.

5. Draw the pin diagrams of dual-in-line package for a typical IC 741 or equivalent and indicate each pin.

6. Define CMRR.

7. Draw the circuit diagram of a comparator.

8. Draw the circuit of a astable multivibrator using timer IC.

9. Draw the circuit of a triangular wave generator using OP-AMP.

10. Draw the basic square wave generator using timer.

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain amplitude modulation with neat waveforms and state expression.

12. Draw and explain single-diode detector circuit.

13. Draw the waveforms of PAM, PPM, PWM and PCM.

14. Draw the circuit diagram of differential amplifier and explain the operation of differential amplifier.

15. Draw the circuit diagram for differentiator and explain its operation with neat waveforms.

16. Draw the circuit diagram of isolation amplifiers and explain the operation of the circuit.

17. Draw the circuit diagram for Wien's bridge oscillator using OP-AMP and explain its operation.

18. Draw the block diagram of 555 timers IC and explain function of each block in detail.

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